actual size

Real Time Clock Modul · JR8130

- RTC module with I²C interface, dimension 3.2 x 2.5 mm
- contains frequency adjusted 32.768kHz crystal
- wide supply voltage range 1.25 V - 5.5 V
- very low current consumption
- seam sealad ceramic/metal package

RoHS compliant

Pb free

REACH compliant

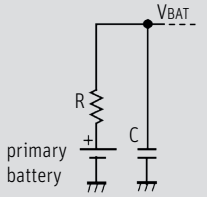
Conflict mineral free

FEATURE LIST

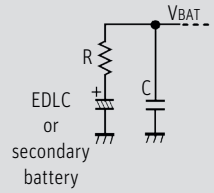
TYPE	JR8130 RTC module with I²C I/F
RTC module with built-in frequency adjusted 32.768 kHz crystal unit	interrupt output, configurable to every minute or every second
I²C-Bus interface with 400 kHz fast mode type	alarm interrupt returns date / day / hour / minute
low backup current 300 nA typ. at 3 V	auto repeat wakeup timer interruption
automatically switches to backup power supply by monitoring the V_{DD} voltage	self-monitoring interrupt on oscillation stop / V_{BAT} low, V_{DD} low
backup battery charge control function for rechargeable battery	clock output selectable 1 Hz / 1024 Hz / 32768 Hz
main power supply monitoring with reset logic / delay	overcharge / discharge protection for lithium battery
user-defined digital fine clock tuning option to counteract long term drift	power / battery usage counter

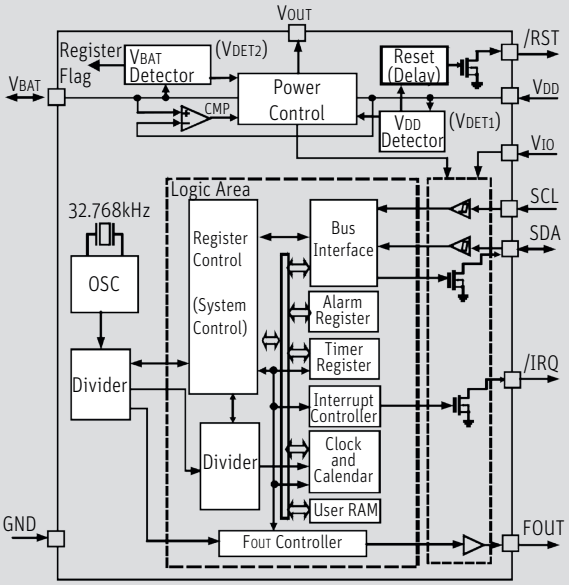
BLOCK DIAGRAM

Battery backup connection example (1)

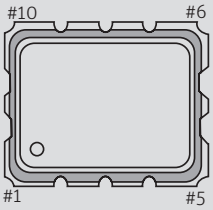


Battery backup connection example (2)





TERMINAL CONNECTION



1: V_{IO}
2: SCL
3: SDA
4: FOUT
5: /RST
6: /IRQ
7: GND
8: V_{DD}
9: V_{OUT}
10: V_{BAT}

PIN DESCRIPTION

Signal Name	I / O	Function	Information
SCL	I	serial clock input pin	I²C serial clock input
SDA	I / O	serial data input and output pin	I²C serial data input / output
FOUT	O	frequency output pin (CMOS)	according to frequency selection: 32.768 kHz, 1024 Hz, 1 Hz
/RST	O	reset output pin (N-channel open drain)	in case a V_{DD} voltage drop is detected, a reset signal occurs in case a V_{DD} voltage rise is detected, the reset is released
/IRQ	O	interrupt output	occurring at alarm, wakeup timer or time update events even in backup mode (N-channel open drain)
V_{DD}	-	power supply pin	V_{DD} supply voltage can be different from I/O voltage V_{IO}
V_{IO}	-	interface power supply pin	feed the interface voltage pin to match the level of interface signals with the host voltage
V_{OUT}	-	internal voltage output pin	connect a bypass capacitor of 1.0 µF
V_{BAT}	-	power supply pin for backup battery	to connect an EDLC / super capacitor, a secondary battery or a primary battery in the backup voltage range the module is supplied from this pin
GND	-	ground pin	

Jauch® THE PULSE OF PROGRESS

please refer to the JR8130 manual for more functional details

Real Time Clock Modul · JR8130

ORDER INFORMATION

JR	type	–	dimension	–	interface	–	frequency tolerance code	–	temp. range
Jauch RTC module	8130		32 = 3225		I2C		UB = +5 ppm ± 23 ppm		-40 °C ~ +85 °C

Example: JR8130-32-I2C-UB-T(-40/+85)-LF (Suffix LF = RoHS compliant / Pb free)

OPERATING CONDITIONS

Type		JR8130
operating supply voltage V_{DD}		typ. 3.0V / 1.25V - 5.5V
clock supply voltage V_{CLK}		typ. 3.0V / 1.10 V - 5.5 V
current consumption		see table 1
falling edge delection of V_{DD}		1.3 V typ / 1.10 V min. 1.4V max.
temperature	operating	-40°C - +85°C
	storage	-55°C - +85°C
frequency tolerance at +25°C and 3.0 V		+5 ppm +/-23 ppm (code UB)
start-up time max.		1 s (if V_{DD} > 2.75V)

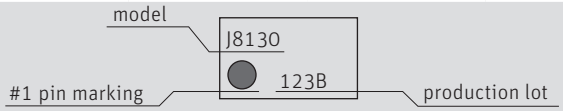
TABLE 1: CURRENT CONSUMPTION

Item	Symbol	Conditions	Min.	Typ	Max.	Unit
current consumption	I_{BAT}	SCL = SDA = "L" V_{BAT} = 3.0 V, V_{DO} = V_{IO} = 0.0 V	-	300	500	nA
	I_{32K}	SCL = SDA = "H", FOUT = 32.768 kHz. /IRQ = OFF, V_{DD} = V_{IO} = 3.0 V, FOUT pin CL = 15 pF, CHGEN = L or V_{BAT} > VDET3	-	3.5	4.0	uA

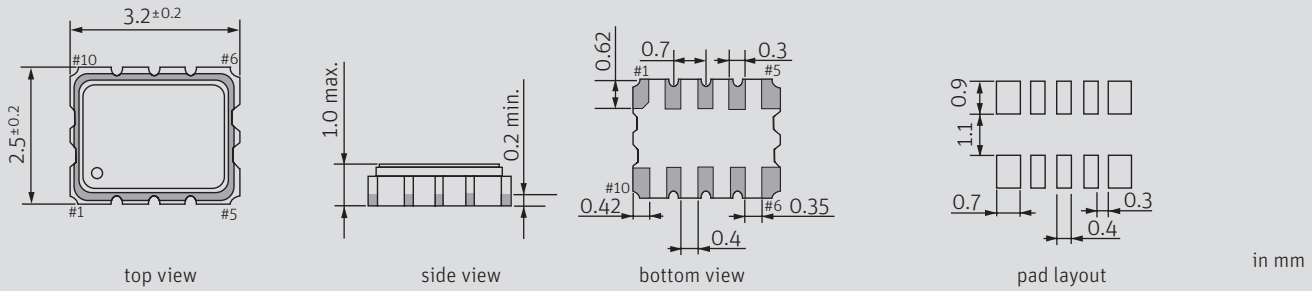
PACKAGING NOTE

standard packing unit is 2000 pieces per reel
250 pieces per reel optional

MARKING INFORMATION



DIMENSION



TAPING SPECIFICATION